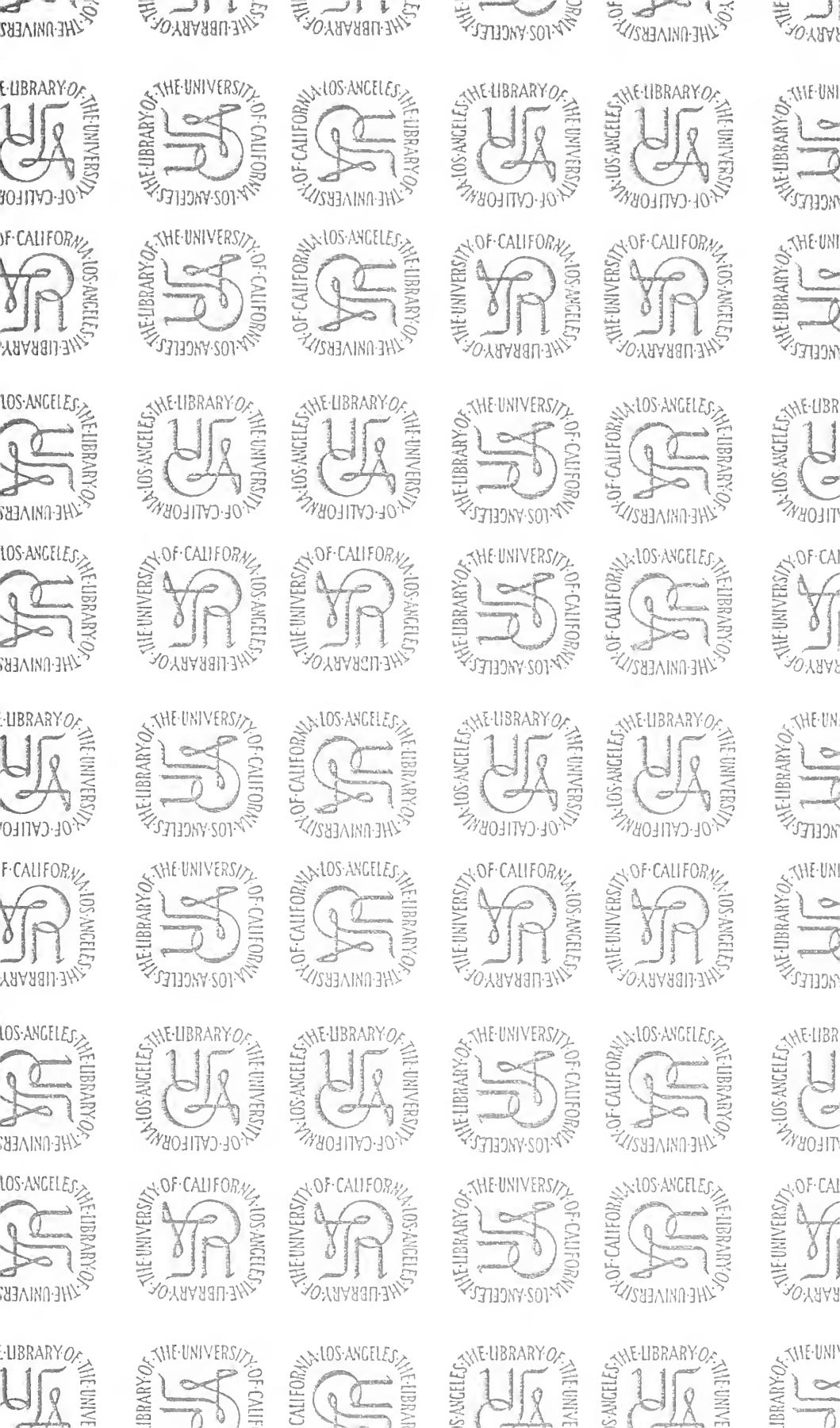


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THE RUINS OF CHOQUEQUIRAU

BY HIRAM BINGHAM

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BERNARD MOSES

THE RUINS OF CHOQUEQUIRAU

BY HIRAM BINGHAM

IN February, 1909, I undertook to go on muleback from Cuzco to Huancayo, the present terminus of the Lima-Oroya Railroad. It was my purpose to follow the old Spanish trade route that was used not only by the armies of Pizarro and the Incas, but also by the armies of both patriots and royalists in the wars of independence (see fig. 52). I had as companion Mr Clarence Q. Hay, of Washington, D. C.

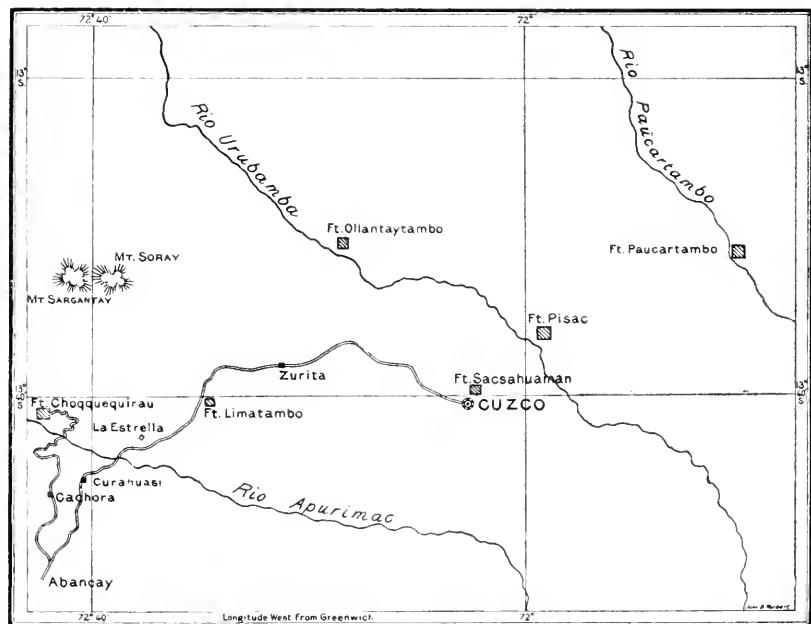


FIG. 52.—Sketch map of part of Peru showing route from Cuzco to Choquequirau.

On the fourth day out from Cuzco we reached the town of Abancay, the capital of the Department of the Apurimac, where we were welcomed by Hon. J. J. Nuñez who was then prefect of the department, a man of unusual ability and energy. Scarcely

had he taken time to show us those courtesies which are such a pleasant feature of Spanish American hospitality, than he broached the subject of Choquequirau, and begged us to visit this famous Inca stronghold which had recently been rendered readily accessible for the first time in the memory of man.

It seems that in Quichua, the language of the Incas, still spoken by a majority of the mountaineers of Peru, Choquequirau means "Cradle of Gold." Attracted by this romantic name and by the lack of all positive knowledge concerning its last defenders, several attempts had been made during the past century to explore its ruins and to discover the treasure which it is supposed the Incas hid here instead of allowing it to fall into the hands of Pizarro with the ransom of Atahualpa. Owing to the very great difficulty of reaching the site of the ruins a tradition had grown up that the Incas built a great city that once contained over 15,000 inhabitants, high up on the mountain-side, six thousand feet above the river Apurimac. That the tradition had a basis of fact had been demonstrated occasionally by bold mountain climbers who succeeded in reaching a part of the ruin.

We were told that the first man to reach there went and came alone. All he saw was a stone wall which he reached late in the afternoon, exhausted and without food. He slept in its shelter, left his gun as proof that he had been there, and came away early the next morning anxious only to get home. A generation later a small party of adventurers succeeded in reaching the ruins with enough food to last them for two days. They excavated two or three holes in a vain effort to find buried treasure and returned with a tale of sufferings that kept any one from following their example for twenty years. They brought back reports of rocky "palaces, paved squares, temples, prisons and baths," all crumbling away beneath luxuriant tropical vegetation. Then a local magistrate, dreaming of untold riches, so ran the tale, endeavored to construct a path by which it might be possible to reach Choquequirau and to maintain a transportation service of Indian carriers who could provide workmen with food while they were engaged in making a systematic effort to unearth the "cradle of gold." This man had at his disposal the services of a company of soldiers and a large



number of Indians, and it is said that he expended a large amount of time and money in his quest. He succeeded in reaching the top of the ridge, 12,000 feet above the river and 6,000 feet above Choquequirau, but was unable to scale the precipices that surround the ruins and all his labor came to nought. Others tried to utilize the path that he had made but without success until the present prefect of the department of Apurimac, Honorable J. J. Nuñez, assumed office and became interested in the local traditions. Under his patronage, a company of treasure seekers was formed and several thousand dollars were subscribed.

The first difficulty that they encountered was the construction of a bridge over the frightful rapids of the Apurimac. All efforts failed. Not a Peruvian could be found willing to venture his life in the whirlpool rapids. Finally "Don Mariano," an aged Chinese peddler, who had braved the terrors of the Peruvian mountains for thirty years, dared to swim the river with a string tied to his waist. Then, after much patient effort, he succeeded in securing six strands of telegraph wire from which he hung short lengths of fiber rope and wove a mat of reeds two feet wide to serve as a foot path for a frail suspension bridge. Once on the other side, the company was able to use a part of the trail made twenty years before, but even with that aid it took three months of hard work to surmount the difficulties that lay between the river and Choquequirau. Cheered on by the enthusiastic prefect and his aide, Lieut. Carceres, an exceptionally bold officer, the task which had defied all comers for four hundred years, was accomplished. A trail that could be used by Indian bearers was constructed through twelve miles of mountain forest, over torrents and precipices, and across ravines from the river to the ruins.

With these and similar stories we were regaled by one and another of the local antiquarians, including the president of the treasure company and our friend the prefect.

We felt at first as though we could not possibly spare the week which would be necessary for a visit that would be worth while. Furthermore we were not on the lookout for new Inca ruins and had never heard of Choquequirau. But the enthusiasm of the prefect and his friends was too much for us. The prefect held it

Bernard Moore

out as an extra inducement that no foreigners had ever visited Choquequirau, a statement that I later found to be incorrect. Finally he said that President Leguia of Peru knowing that we were to pass this way had requested the company to suspend operations until we had had a chance to see the ruins in their original condition. In short so urgent were the prefect's arguments and so ready was he to make it easy for us that we finally consented to go and see what his energy had uncovered.

That night he gave us an elaborate banquet to which he had invited fifteen of the local notables. After dinner we were shown the objects of interest that had been found at Choquequirau, including several ancient shawl pins and a few nondescript metallic articles. The most interesting was a heavy club fifteen inches long and rather more than two inches in diameter, square, with round corners, much like the wooden clubs with which the Hawaiians beat *tapa*. It has a yellowish tinge that gave rise to a story that it is of pure gold. Unfortunately we had no means of analyzing it but I presume it was made, like the ancient Inca axes, of copper hardened with tin.

The next afternoon we packed and on the following morning, accompanied by a large cavalcade, we started for Choquequirau. Most of our escort contented themselves with a mile or so, and then, wishing us good luck, returned to Abancay. We did not blame them. Owing to unusually heavy rains, the trail was in a frightful state. Well nigh impassable bogs, swollen torrents, avalanches of boulders and trees besides the usual concomitants of a Peruvian bridle-path cheered us on our way.

At noon we stopped a few moments in the village of Cachora where the prefect had instructed the gobernador to prepare us a "suitable luncheon." This intoxicated worthy offered us instead, many apologies, and we had to get along as best we could with three or four boiled eggs, all the village could provide.

All day long through rain and heavy mists that broke away occasionally to give us glimpses of wonderfully deep green valleys, and hillsides covered with rare flowers, we rode along a slippery path that grew every hour more treacherous and difficult. In order to reach the little camp on the bank of the Apurimac that

night we hurried forward as fast as possible although frequently tempted to linger by the sight of acres of magnificent pink begonias and square miles of blue lupins. By five o'clock, we began to hear the roar of the great river seven thousand feet below us in the cañon. The Apurimac, which flows through the Ucayali to the Amazon, rises in a little lake near Arequipa, so far from the mouth of the Amazon that it may be said to be the parent stream of that mighty river. By the time it reaches this region it is a raging torrent two hundred and fifty feet wide and, at this time of the year, over eighty feet deep. Its roaring voice can be heard so many miles away that it is called by the Quichua, the Apurimac, or the "Great Speaker."

Our guide, the enthusiastic Carceres, declared that we had now gone far enough. As it was beginning to rain and the road from there on was "worse than anything we had as yet experienced," he said it would be better to camp for the night in an abandoned hut nearby. His opinion was eagerly welcomed by two of the party, young men from Abancay, who were having their first real adventure, but the two "Yankis" decided that it was best to reach the river if possible. Carceres finally consented, and, aided by the dare-devil Castillo, we commenced a descent that for tortuous turns and narrow escapes beat anything we had yet seen.

An hour after dark we came out on a terrace. The roar of the river was so great that we could scarcely hear Carceres shouting out that our troubles were now over and "all the rest was level ground." This turned out to be only his little joke. We were still a thousand feet above the river and a path cut in the face of a sheer precipice had yet to be negotiated. In broad daylight we should never have dared to ride down the tortuous trail that led from the terrace to the bank of the river, but as it was quite dark and we were entirely innocent of any danger we readily followed the cheery voice of our guide. The path is what is known as a corkscrew and descended the wall of the cañon by means of short turns, each twenty feet long. At one end of each turn was a sheer precipice while at the other was a chasm down which plunged a small cataract which had a clear fall of seven hundred feet. Half way down the path my mule stopped, trembling, and I dismounted

to find that in the darkness he had walked off the trail and had slid down the cliff to a ledge. How to get him back was a problem. It is not easy to back an animal up a steep hill, and there was no room in which to turn him around. It was such a narrow escape that, when I got safely back upon the trail, I decided to walk the rest of the way and let the mule go first, preferring to have him fall over the precipice alone if that were necessary.

Two-thirds of the way down the descent came the crux of the whole matter for here the path crossed the narrow chasm close to and directly in front of the cataract; and in the midst of its spray. There was no bridge. To be sure, the waterfall was only three feet wide, but it was pitch dark. As I could not see the other side of the chasm, I did not dare to jump alone but remounted my mule, held my breath, and gave him both spurs at once. His jump was successful. Ten minutes later we saw the welcome light of the master of the camp who came out to guide us through a thicket of mimosa trees that grew on the lower terrace just above the river.

The camp consisted of two huts, 6x7, built of reeds. Here we passed a most uncomfortable night.

While breakfast was being prepared we went out to take pictures and measurements of the bridge. This was 273 feet long by 32 inches wide, and the river 250 feet wide. "Don Mariano," the builder of the bridge, told us that when construction commenced, the water was nearly eighty feet below the bridge although at present the river had risen so that it was only twenty-five feet below it, an increase in depth of *over fifty feet*. An almost incredible bulk of water was roaring between its steep banks. It was estimated at 100 feet deep, and yet the water piled up on itself in such a way as to give the appearance of running against huge boulders in mid-stream.

We sent the Indian bearers ahead with our luggage. Pack animals could not possibly use the trail on the other side of the river and the bridge was not constructed to carry their weight. The surprising thing was that the Indians were very much afraid of the frail little bridge which Chinese courage and ingenuity had built, and crept gingerly across it on their hands and knees while they carried our luggage and supplies to the other side of the river.

They had been accustomed for centuries to using frail suspension bridges much less strong in reality than this little structure. But they are not acquainted with the tenacity of wire and it seemed the height of frivolity to them that we should be willing to trust our lives to such a small "rope." Yet the much larger fiber ropes of which their suspension bridges were constructed would not begin to stand the strain as well as these six telegraph wires.

After a breakfast, of thin soup and boiled sweet potatoes, we girded ourselves for the ascent. The river at this point is about five thousand feet above sea level. We had had little practice in mountain climbing, except on mule back, for many months, and it seemed like a pretty serious undertaking to attempt to climb six thousand feet more to an elevation of eleven thousand feet. This will sound tame enough to the experienced mountain climber although it was anything but easy for us. Our patient, long-suffering Quichua bearers, coming of a race that, at high altitudes, is in the habit of marching distances which appear incredibly long to those students of military history that have confined their attention to the movements of European troops, bore their burdens most cheerfully. At the same time they gave frequent evidence of great fatigue which was not at all to be wondered at under the circumstances.

At times the trail was so steep that it was easier to go on all fours than to attempt to maintain an erect attitude. Occasionally we crossed streams in front of waterfalls on slippery logs or treacherous little foot bridges. At other times we clung to the face of rocky precipices or ascended by roughly constructed ladders from one elevation to another. Although the hillside was too precipitous to allow much forest growth, no small part of the labor of making the path had been the work of cutting through dense underbrush.

As we mounted, the view of the valley became more and more magnificent. Nowhere have I ever witnessed such beauty and grandeur as was here displayed. A white torrent raged through the cañon six thousand feet below us. Where its sides were not too precipitous to admit of vegetation, the steep slopes were covered with green foliage and luxuriant flowers. From the hilltops near

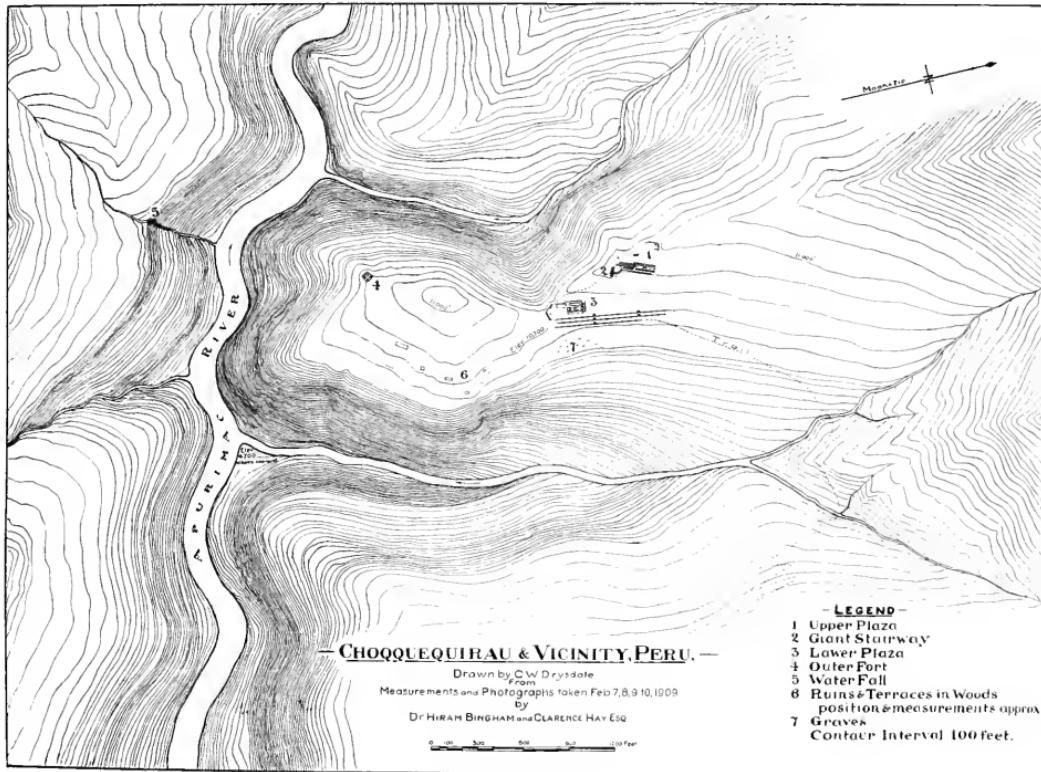
us other slopes rose six thousand feet beyond and above to the glaciers and snow capped summits of Mts Sargantay and Soray. In the distance, as far as we could see, a maze of hills, valleys, tropical jungles, and snow-capped peaks held the imagination as though by a spell. Such were our rewards as we lay panting by the side of the little path when we had reached its highest point.

After getting our wind, we followed the trail westward, skirting more precipices and crossing other torrents until, about two o'clock, we rounded a promontory and caught our first glimpse of the ruins of Choquequirau on the slopes of a bold mountain headland six thousand feet above the river. Between the outer hilltop and the ridge connecting it with the snow-capped mountains a depression or saddle had been terraced and leveled so as to leave a space for the more important buildings of the Inca stronghold.

At three o'clock we reached a glorious waterfall whose icy waters, coming probably from the glaciers on Soray, cooled our heads and quenched our thirst. We had now left our companions far behind and were pushing slowly along through the jungle when shortly before four o'clock we saw terraces in the near distance. Just as we began to enjoy the prospect of reaching Choquequirau alone, Carceres and Castillo caught up with us. They had stayed behind in a futile attempt to encourage the Indian bearers and the other adventurers to have more "valor." The others did not arrive until the next morning, not even the Quichua carriers on whom we depended for food and blankets, and owing to their non-appearance we passed an uncomfortable night in the smallest of the little thatched huts which the workmen had erected for their own use. It was scarcely three feet high and about 6 ft. long by 4 ft. wide. The day had been warm and, in our efforts to make climbing as easy as possible, we had divested ourselves of all our warm clothes. Notwithstanding the fact that a shelter tent was pulled down and wrapped around us for warmth, and stacks of dry grass piled about us, we were scarcely able to close our eyes for the cold and chilling dampness all night long.

The humidity was one hundred or nearly so during the four days which we spent on the mountain. Consequently we passed the greater part of the time in thick mist or rain.

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We had reached Choquequirau (plate XL), after a hard climb, on February 7, 1909. The next morning we began at once to take measurements and get what pictures we could. We found that the ruins were clustered in several groups, both on terraces and natural shelves, reached by winding paths or stairways. Some buildings were long and narrow and of one story; others of a story-and-a-half with tall gables. The buildings were placed close together, probably in order to economize all the available space. It is likely that every square yard that could be given to agriculture was cultivated.

Magnificent precipices guard the ruins on every side and render Choquequirau virtually inaccessible to an enemy. Every avenue of ascent, except such as the engineers determined to leave open, was closed and every strategic spot was elaborately fortified. Wherever it might have been possible for a bold mountaineer to gain a foothold, the Incas had built well faced walls of stone so as to leave an adventurous assailant no support. The terraces thus made served the double purpose of military defense and of keeping the soil from sliding away from the gardens down the steep hillside.

As may be seen from the map, the ruins consist of three distinct groups of buildings.

All had been more or less completely hidden by trees and vines during the centuries of solitude. Fortunately for us the treasure-seeking company had done excellent work in clearing away from the more important buildings the tangled mass of vegetation that had formerly covered them. Dynamite had also been used in various likely spots where treasure might have been buried. But the workmen had found no gold and only a few objects of interest, including, besides those we saw at Abancay, a few clay pots and two or three grinding stones of a pattern still in use in this part of the Andes and as far north as Panama (plate XLI, *a*).

At the top of the southern and outer precipice, five thousand eight hundred feet immediately above the Apurimac river, stands a parapet and the walls of two buildings without windows. The view from here, both up and down the valley of the Apurimac, surpasses the possibilities of language for adequate description. No photograph gives more than the faintest idea of its beauty and gran-

deur. Far down the gigantic cañon one catches little glimpses of the Apurimac, a white stream shut in between guardian mountains, so narrowed by the distance that it seems like a mere brooklet. Here and there through the valley are marvelous cataracts, one of which, two thousand feet high, has a clear fall of over one thousand feet. The panorama in every direction is wonderful in variety, contrast, beauty, and grandeur.

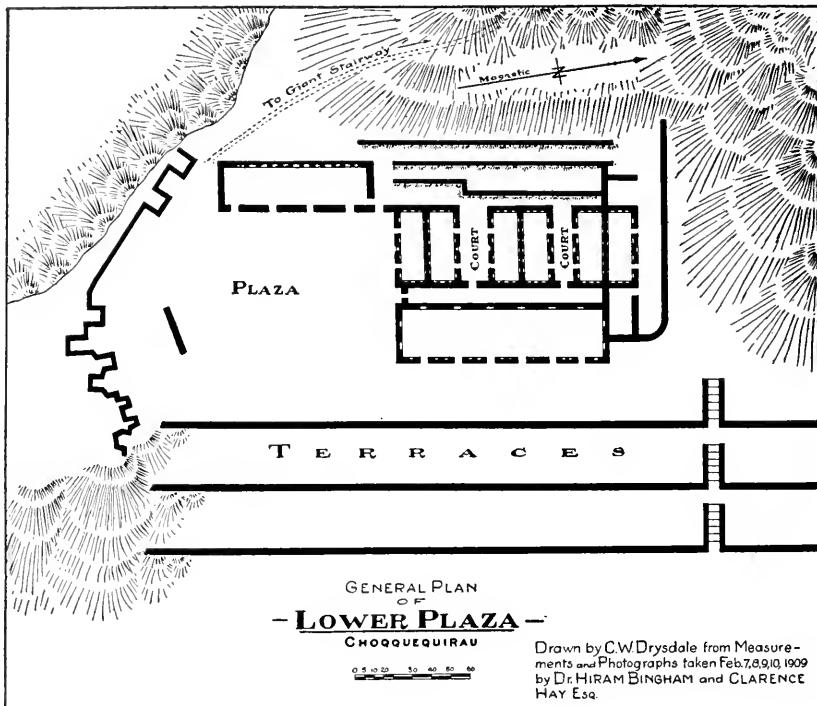


FIG. 53.

North of this outer group of buildings is an artificially truncated hill. It is probable that on this flattened hilltop, which commands a magnificent view up and down the valley, signal fires could be built to telegraph to the heights overlooking Cuzco intelligence of the approach of an enemy from the Amazonian wilds.

We noticed on this hilltop that small stones had been set into the ground, in straight lines crossing and recrossing at right angles as though to make a pattern. So much of it was covered by grass,



a



b

RUINS OF CHOQUEQUIRAU

a. Pottery and stoneware. *b.* Wall into which were set curious carved stone rings

however, that we did not have a chance to sketch it in the time at our disposal.

North of the lookout and on the saddle between it and the main ridge is located the "lower plaza" (fig. 53): a rude fortification fifteen feet high, running across the little ridge from one precipitous slope to the other; a long one-story building of uncertain use in which curious carved stone rings are set into the walls in such a manner as to serve possibly for the detention of prisoners (plate XLII, b); a long one-story building that might have been a grand hall or place of meeting, whose walls are surrounded with numerous niches; and a block of story-and-a-half houses whose gabled ends are still standing. The use of gables was almost universal in the central and southern parts of the Inca empire. Ruins of Inca towns are in fact specially marked by their pointed gables which almost always have one or two windows, or entrances to the second story.

These double buildings stand transversely to the general line of the edifices and have a middle or party-wall exactly dividing the gable. It rises to the peak of the structure and once doubtless supported the upper ends of the rafters. These houses bear a striking resemblance to one of the Inca buildings at Ollantaytambo described by Squier¹ in the following words:

"It is a story and a half high, built of rough stones laid in clay, and originally stuccoed, with a central wall reaching to the apex of the gables, dividing it into two apartments of equal size. . . . There seems to have been no access to the upper story from the interior, but there are two entrances to it through one of the gables, where four flat projecting stones seem to have supported a kind of balcony or platform, reached probably by ladders."

This description fits these structures almost exactly. There are other resemblances between Choquequirau and the Inca fortresses visited and described by Mr Squier. In fact, one might use many a sentence from his accounts of Pisac and Ollantaytambo that would adequately describe Choquequirau and its surroundings. Like the buildings of Ollantaytambo, these are nearly perfect, lacking only the roof.

One two-story building had an exterior measurement of 42 x 38

¹ E. G. Squier, *Peru, Incidents of Travel and Exploration in the Land of the Incas*, New York, 1877, p. 503.

feet. Similar buildings measured by Squier near the temple of Viracocha north of lake Titicaca were similarly divided into two equal apartments and measured 46 x 38 feet. The fronts of each building have two entrances (plate XLII, *a*) and the interior of every apartment is ornamented with irregular niches within which some of the stucco still remains. The walls are irregular in thickness but usually about three feet thick, and are composed of unhewn fragments of lava cemented together with a stiff clay.

In general, the walls of all the buildings appear to have been built entirely of stone and clay. The construction, compared with that of the Inca palaces in Cuzco, is extremely rude and rough and no two niches or doors are exactly alike. Occasionally the lintels of the doors were made of timber, the builders not having taken the trouble to provide stones wide enough for the purpose. One such lintel was still standing, the wood being of a remarkably hard texture.

Probably the ruins today present a more striking appearance than they did when they were covered with thatched roofs.

Ornamental niches, which constitute a characteristic and constant feature in Inca architecture, appear on the interior of all the Choquequirau buildings and on the exterior of a few. Some of those on the outside have small re-entering niches. Those on the inside are of two kinds. The larger ones, about five feet high, reach to the floors of the apartments and are mere closets as it were without doors, being slightly wider at the bottom, about thirty-four inches, than at the top, about twenty-eight inches, and of varying depth, thirteen to sixteen inches. A second line of niches, smaller and not reaching to the ground, is also found in several of the buildings. There is good evidence that some of the buildings were faced with stucco and possibly painted in colors differing from the walls they were intended to adorn. In the case of one wall that had been partly pushed out of the perpendicular by the action of time several of the niches retained almost entirely their coating of stucco and so did some of the more protected portions of the wall (plate XLIII, *a*).

Almost the only ornamentation which the buildings contained besides the ever present niches, were cylindrical blocks of stone



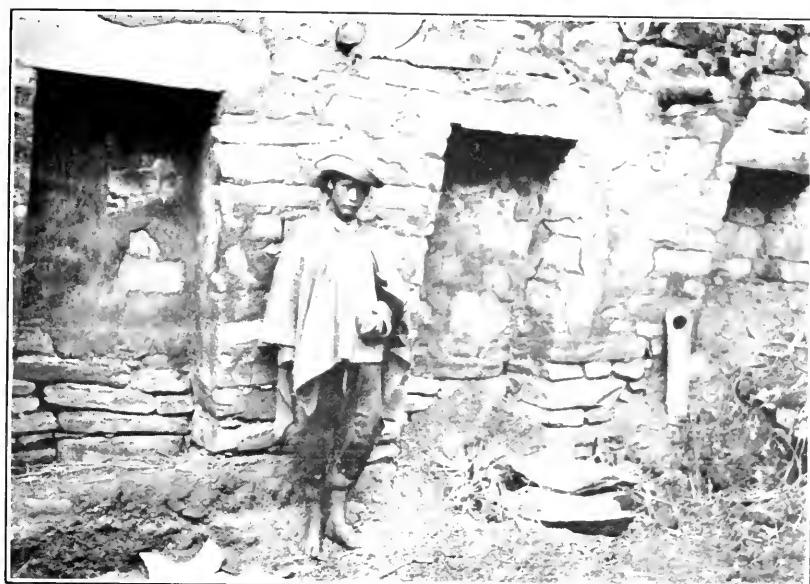
a

RUINS OF CHOQUEQUIRAU

a. Principal entrance to long corridor, lower plaza, the most elaborate gateway in the ruins. b. A recessed or bath house.



b

*a**b*

RUINS OF CHOQUEQUIRAU

a. Niches still retaining their stucco. *b.* Gabled houses in the upper plaza.

about three inches in diameter projecting twelve or fourteen inches from the wall seven feet above the ground between each niche. These may be seen in plate XLIII, *a*.

In one of the niches I found a small stone whirl-bob of a spindle wheel, in size and shape like those made from wood and used to-day all over the Andes by Indian women. This simple spinning apparatus consists of a stick about as large as the little finger and from ten to twelve inches long. Its lower end is fitted with a whirl-bob of wood to give it proper momentum when it is set in motion by a twirl of the forefinger and thumb grasping the upper end of the spindle. It is in universal use by Indian women from the Andes of Colombia to those of Chile and one rarely sees a woman tending sheep or walking along the high road who is not busily engaged in using this old fashioned spindle. In the tombs of Pachacamac near Lima have been found spindles still fitted with similar whirl-bobs of stone.

The third group of buildings (fig. 54) is higher up on the spur, a hundred feet or more above the second group. Near the path from the lower to the upper plaza are the remains of a little *azequia* or watercourse, now dry, lined with flat stones, designed to carry a small stream from the upper buildings to the lower. The south-east corner of the upper group of buildings is marked by a huge projecting rock twenty feet high and twelve or fifteen feet in diameter. Beside it, facing the eastern slope, is a giant stairway. It consists of fourteen great steps roughly made and of varying dimensions (plate XLIV, *a*). They average about fifteen feet wide, with risers four and a half feet high and treads about six and a half feet deep. It is possible to ascend these stairs by means of small stone steps erected on one end or the other of the giant step. Walls on each side, two feet wide, serve as a balustrade. A peculiarity of the construction is the locating of a huge flat stone in the center of the riser of each step. The view to the eastward from this stairway is particularly fine. Perhaps the rising sun, chief divinity of the Incas, was worshipped here.

Beyond the stairway are terraces, alleyways, walls, and story-and-a-half buildings, filled with niches and windows. The length of the first terrace is slightly over two hundred feet and its height

is twelve feet. The second terrace above it has a height of ten feet and a length of one hundred and twenty-nine feet. Above these are two long alleyways or halls with niches in their walls and windows looking out over the terraces. These halls are five feet wide. Back of these are buildings resembling in their construction

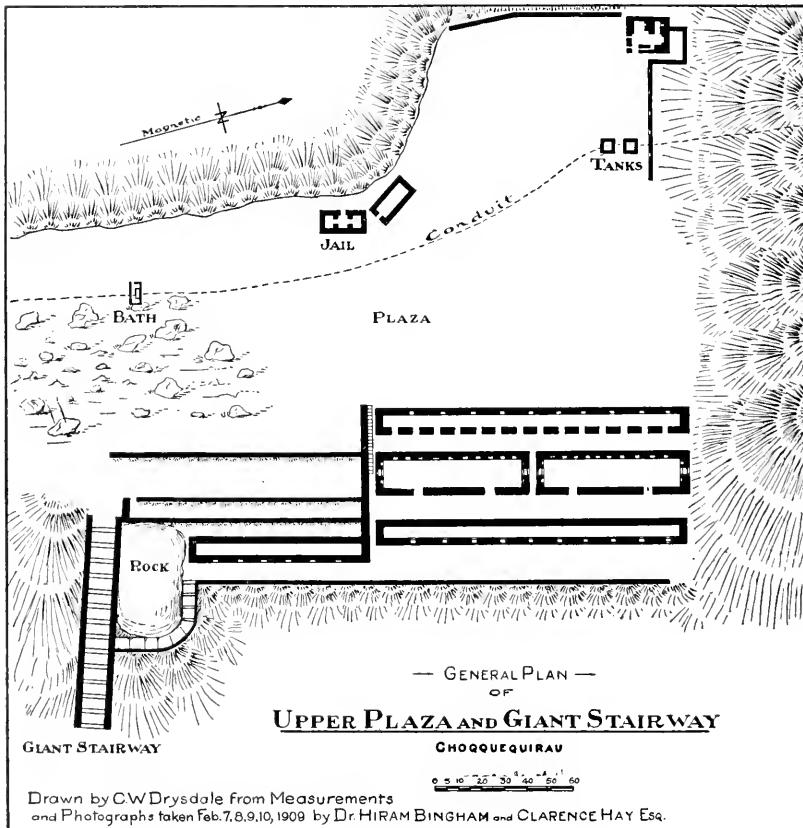


FIG. 54.

those in the lower group of houses (plate XLIII, *b*). They also are decorated with irregular niches and cylindrical stone projections. Under these houses, however, there ran a small passageway or drain twelve inches wide and ten inches deep. These two houses although roughly built were as nearly exactly the same size as possible. Between them ran a narrow passageway leading to a



RUINS OF CHOQUEQUIRAU

a. Part six steps of the giant stairway; *b.* Grave where the author found a small stone; *c.*



a

back alley. This was curiously paved, with slabs of slate half an inch thick. Back of this is another hall five and a half feet wide with windows in front and niches on the rear, or hill, side.

The gables of the upper group are steeper than those of the lower group and are in fact quite as pointed as those seen in Dutch cities. The two gable buildings of the upper group stand on the slope of the hill in such a manner that there is no gable on the side nearest the declivity. In other words, they are only half the shape of the double houses below. Nearly all of these houses have two or three small rude windows. A narrow stone stairway leads from the back alley to a terrace above. This opens out into the upper plaza on which are several buildings that overlook the western precipices. Two of the buildings have no windows and one of them contains three cells. The Peruvians said they were used for the detention of prisoners. They were more likely storehouses. On the north side of the plaza is a curious little structure built with the utmost care and containing many niches and nooks. It may possibly have been for the detention of so called "virgins of the Sun" or have been the building in which criminals, destined to be thrown over the precipice according to the laws of the Incas, awaited their doom. The plan gives a good idea of its irregular construction.

Above it the hillside rises steeply and on the crest of the ridge runs a little conduit which we followed until it entered the impenetrable tropical jungle at the foot of a steep hill. The water in this little *azequia*, now dry, coming straight down the spur, was conducted over a terrace into two well-paved tanks on the north side of the plaza. Thence it ran across the plaza to a little reservoir or bath-house on the south side (plate XLII, b). This was ten feet long by five feet wide with low walls not over five feet high and had on its north side a small stone basin let down into the floor two feet by three, in such a manner as to catch the water that flowed over the edge of the wall. A small outlet had been provided at the end of this basin so that the water could flow underneath the floor of the bath room or tank house and then proceed on its way down the ridge to the buildings below.

As the western slope of the Choquequirau spur is a sheer preci-

pice, little attempt at fortification was made on that side. The eastern slope, however, is not so steep. On this side it was necessary to build enormous terraces hundreds of feet long faced with perpendicular stone walls twelve feet wide. Two narrow alleys paved with stone steps lead from one terrace to another.

Near one of the terraces I picked up a bola, or possibly a hammer-stone, nearly as large as my fist. It may have been used in dressing the stones for the entrance to the more important buildings.

In the jungle immediately below the last terrace, under ledges and huge boulders, were dug little caves in which the bones of the dead were placed (*plate XLIV, b*). I found that the bones were heaped in a little pile as though they had been cleaned before being interred. No earth had been placed on them but on top of the little pile in one grave I found a small earthenware jar about one inch in diameter. It had no handles and was not closed at the top although the opening, a quarter of an inch in diameter, had been fitted with an especially well made perforated cap. There was nothing in the jar although it had retained its upright position during all the years of its interment. The natural entrance to the little tomb had been walled up with wedge-shaped stones from the inside in such a way as to make it extremely difficult to enter the cave from the front. I found, however, that by digging away a little on one side of the huge boulder, I could easily remove the stones, which had evidently been placed there by the grave digger after the bones had been deposited in the tomb.

The workmen had excavated under a dozen or more of the projecting ledges and in each case had found bones and occasionally shreds of pottery. In no case, however, had they found anything of value with the bones to indicate that the persons buried here were of high degree. Probably they were common soldiers and servants. If any of the officers of the garrison or Inca nobles were ever buried in this vicinity, their tombs have not yet been discovered, or else the graves were rifled years ago. But of this there is no evidence.

All the conspicuously large rocks below the terraces have been found to cover graves. The skulls were not found alone but always near the remainder of the skeleton. The larger bones were in fairly good condition but the smallest bones had completely disin-

tegrated. Nevertheless ribs were frequently met with. Some of the largest bones could be crumbled with the fingers and easily broken while others were very hard and seemed to be extremely well preserved. Some skulls likewise were decayed and could be easily crushed with the fingers while others were white and hard. All the skulls found were those of adults although one or two of them seemed to be persons not over twenty years of age (see fig. 55).

So far as has been observed no superencumbent soil was placed on the skeleton.

The Quichua Indian carriers and workmen watched our operations with interest but they became positively frightened when we began the careful measurement and examination of the skulls. They had been in doubt as to the object of our expedition up to that point, but all doubts then vanished and they decided we had come here to commune with the spirits of the departed Incas.

As a rule the evidence of deformation of the skull was slight in a majority of the specimens examined. Nevertheless one had been much flattened behind and another extremely so in front. There was no evidence of the skulls having been trephined or of any decorative patterns having been made on any part of the skulls or bones. Three of the skulls are now in the Peabody Museum in New Haven, with the other articles I found here.

On the steep hillside southeast of the terraces and graves, we found many less important ruins completely covered by the forest. Were it possible to clear away all the rich tropical growth that has been allowed to accumulate for centuries, one would undoubtedly find that there is not a point which is not somehow commanded



FIG. 55.—Quichua skulls.

or protected by a maze of outworks. No clearing or path having been constructed in order to enable them to be seen, we could not form an adequate idea of their extent. There seemed to be, however, no limit to the ruins of the huts where lived the private soldiers and the servants of the garrison. One hall measured 75 x 25 feet while another was 30 x 10 and it is entirely possible that there are others that have not yet been located, so dense is the jungle.

On the opposite side of the valley are the ruins of Incahuasy, near Tambobamba, which are described by Mr Charles Wiener.¹ So far as I can judge from the drawings he gives of one of the "palaces" the construction is very similar to that used at Choquequirau.

I believe that Incahuasy and Choquequirau were originally frontier fortresses that defended the valley of the Apurimac, one of the natural approaches to Cuzco from the Amazonian wilds. A glance at the map will show that Pisac and Paucartambo, north-east of Cuzco, with Ollantaytambo to the north and Choquequirau to the west form a complete line of defense. Each is located in one of the valleys by which the unconquered Indians of the great forest could attack the sacred capital of the Incas. The Incas were never able to extend their empire far into the forests that covered the eastern slopes of the Andes or the valleys of the rivers that flow toward the Amazon. They did, however, push their empire down the valleys until they encountered the savage inhabitants of these wild forests, savage Chunchas or Antis, who with their poisoned arrows and their woodcraft were well able to protect themselves. The Incas were obliged to stop short when they reached the thick forests. The massive and complicated fortresses of Paucartambo, Pisac and Ollantaytambo marked the extent of their sway. There were undoubtedly several less important outlying fortresses lower down the rivers, situated in such a way as to be able to prevent the incursions of small parties of wild savages and give notice of any large expeditions that might attempt to march on Cuzco. They were so placed as to be practically impregnable. Choquequirau was evidently one of these.

I fear that no amount of dynamite will ever disclose at Choquequirau a "cradle of gold" or any articles of great value. It

¹ *Perou et Bolivie*, pp. 293-5.

was not a temple or a treasure house, but a fortress where life was strenuous. The officers of its garrison were not likely to bring with them gold ornaments or utensils, and the poor Incas had few such baubles left at the end of their career.

Why then should it have been called the "Cradle of Gold"? One answer is that the ridge or spur on which Choquequirau lies, when seen from a distance, looks not unlike a hammock. The setting sun often tinges it with gold and the romantic Incas might easily have named Choquequirau from its resemblance to the only cradles with which they were familiar.

The other answer is that the name, which does not occur in any of the chronicles so far as I have been able to discover, is a modern invention. In one of the buildings we found several slabs of slate on which visitors have been accustomed to register their names. According to these inscriptions Choquequirau was visited in 1834 by a French explorer, M. Eugene de Sartiges, and in July, 1834, by two Peruvians, José Maria de Tejada and Marcelino Leon, who may have come with De Sartiges.

Charles Wiener, in his very unreliable but highly interesting *Perou et Bolivie* (Paris, 1880) says (footnote, p. 294) that Choquequirau has also been visited by another Frenchman, "M. Angrand whose MS. notes, with plans and drawings, were bequeathed to the Bibliothèque Nationale in Paris." I am indebted to Mr W. G. Leland of the Carnegie Institution for a copy of them. It appears that Angrand was in Peru in 1847-8. His map of Choquequirau, a very rough sketch, is dated 30 Sept. He does not seem to have seen much besides the lower plaza. Angrand's name does not appear on any of the slates.

Besides De Sartiges, and the two Peruvians already mentioned, the slate records show that in 1861, on the 10th of November, José Benigno Samanez ("pro Presidente Castilla"), Juan Manuel Rivas Plata, and Mariano Cisneros reached the ruins; also that on July 4, 1885, Luis E. Almanza, J. Antonio Almanza, Emiliano Almanza, Pio Mogrovejo, and a party of workmen did what they could to find the buried treasure. So much for the existing evidence of former visitors.

M. de Sartiges, writing under the *nom de plume*, E. de Lavandais,

published an account of his visit in the *Revue des Deux Mondes*, in June, 1851. His route, the only one possible at the time, was exceedingly circuitous. From Mollepata, a village near the sugar plantation of La Estrella, he went north across the high pass between Mts. Sargantay and Soray to the river Urubamba, to a village called Yuatquinia (Huadquiña?). He engaged Indians to cut a trail to Choquequirau. After three weeks he found that the difficulties of making a trail were so great that it would take at least two months to finish the undertaking so he and his companions made their way through the jungle and along the precipices as best they could for four days. On the fifth day they arrived at the ruins. In his projects for exploration, he had failed to take into account the fact that tropical vegetation had been at work for centuries covering up the remains of the Inca civilization, and, as he was able to stay at Choquequirau only for two or three days, he failed to see some of the most interesting ruins. The giant stairway and the buildings on the upper plaza seem to have escaped his attention entirely. He was greatly impressed with the fortifications on the south side of the lower plaza and speaks of them as though they formed a triumphal wall (*mur triomphal*). He seems to have spent most of his time hunting for treasure behind this wall. He had expected to spend eight days here but the difficulties of reaching the place were so great and the food supply was so limited that he had to hurry back without seeing more than the buildings of the lower plaza, the lower terraces, and a grave or two. It was his opinion that fifteen thousand people lived here once. One wonders what they lived on.

M. de Sartiges' description made us realize how much we were indebted to the labors of the treasure-seeking company for penetrating the jungle and uncovering buildings whose presence otherwise would never have been suspected.

Raimondi says that in 1862, Don Juan Gastelu, a Peruvian traveller, left Ayacucho in an effort to go up the valley of the Apurimac in a canoe, hoping in this way to reach the ancient fortress. After seven days of perilous navigation, he gave up the attempt long before reaching its vicinity.

The interesting question remains: Was this the ultimate refuge of the last Inca?

It is reasonably certain that Manco Ccapac, the last emperor, fleeing from the wrath of the conquerors, took refuge in a place called "Vilcabamba." There is a village of that name two or three days journey over the mountains north of Choquequirau, on the Vilcabamba River, an affluent of the Urubamba. It has never been explored so far as I know.

Peruvian writers, like Paz Soldan and the great geographer Raimondi, are positive that Manco Ccapac's "Vilcabamba" was really Choquequirau. They base their belief on the fact that in 1566 an Augustinian friar, Marcos Garcia, undertook to penetrate to "Vilcabamba" where poor old Manco Ccapac had found a refuge. In describing his tour, Father Calancha, the author of the *Chronica moralizada del Orden de San Augustin* (Libro III, cap. xxiv and xlii), says that Garcia founded a church in Pucyura, "two long days' journey from Vilcabamba." Raimondi calls attention to the fact that the Pucyura is only two leagues from the present village of "Vilcabamba" and, while he admits that it is possible that Father Calancha wrote "days journey" instead of "leagues" by mistake, he believes that the reference is to Choquequirau which is in fact two long days' journey from Pucyura. It is at least a very roundabout method of inference.¹

Raimondi may be correct but, until some one shall have explored the present village of Vilcabamba and its vicinity, I am inclined to the opinion that Choquequirau was merely a fortress.

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¹ Raimondi, *Peru*, Vol. II, page 161.

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